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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,020	10/13/2000	Eric C. Coad	55202USA1A.002	9163
32692	7590	11/21/2003	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			SHAKERI, HADI	
		ART UNIT	PAPER NUMBER	
		3723	<i>17</i>	
DATE MAILED: 11/21/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/687,020	COAD ET AL.
Examiner Hadi Shakeri	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-18 and 20-31 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-18 and 20-31 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 29 March 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. 
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

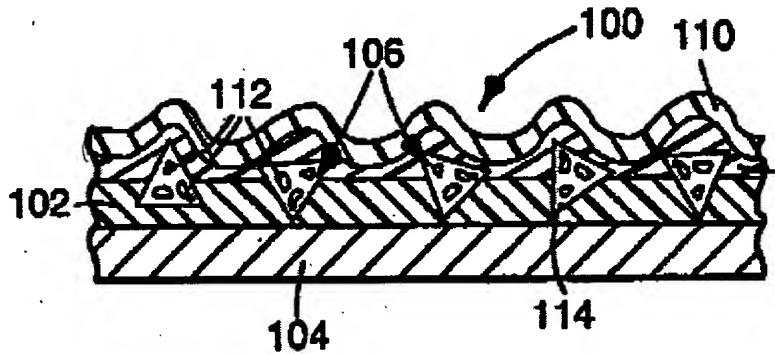
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-14, 18, 20-27 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Holmes et al., US Patent No. 5,690,705.

Holmes et al. discloses all the limitations of claims 1 and 20, i.e., an abrasive article, e.g., (100) comprising a backing (104) an abrasive coating (110) (108) (106) consisting essentially of a harden binder (108) comprising a plurality of precisely-shaped protrusions (106) that are free of abrasives (col. 15, lines 13-15), and diamond like carbon coating (110), col. 15, lines 56-63.



### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubbs et al. in view of Martin et al.

Stubbs et al. discloses all the limitations of claims 1 and 20, i.e., an abrasive article (30) comprising a backing (31) an abrasive coating consisting essentially of a harden binder comprising a plurality of precisely-shaped protrusions (34) that are free of abrasives (col. 15, lines 10-17) for buffing applications or polishing of workpieces like glass or wood, except for disclosing the diamond-like carbon coating. Martin et al. teaches an abrasive article having a diamond like coating layer (48). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the article of Stubbs et al. with diamond-like coating as taught by Martin et al. as wear-protective layer, col. 3, line 28.

Regarding claims 2-18 and 21-31, prior art meets the limitations.

5. Claims 1, 2, 5-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stoetzel.

Martin et al. discloses all the limitations of claims 1 and 20, i.e., a method and an abrasive article (40) comprising a backing (42) an abrasive coating consisting essentially of a hardened binder comprising a plurality of precisely-shaped protrusions (44) (46) and a diamond-like carbon coating (48), except that even though it states "abrasive articles typically comprise abrasives" col. 9, lines 65-67, and that "...hard coating is substantially firmly bonded to the surface of an organic binder with or without abrasive particles, col. 5, lines 1 and 2, it does not, however, specifically states, abrasive coating that is free of abrasives particles. Stoetzel teaches an abrasive article, stating that generally it is preferred to incorporate abrasive particles into

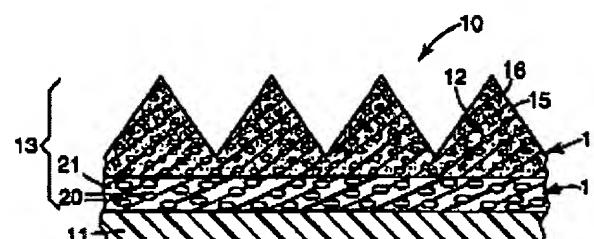


Fig. 1

the abrasive composites, though in some instances an abrasive composite layer may not comprise abrasive particles, col. 8, lines 1-4, designed for workpieces such as wood, plastic...

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stoetzel to adapt the article for polishing "soft" workpieces, such as painted surfaces, wood or plastic. Stoetzel, col. 8, lines 6-8.

Regarding claims 2, 5-18 and 21-31, Martin in view of Stoetzel meets the limitations.

#### ***Response to Arguments***

6. Applicant's arguments filed 08/22/03 have been fully considered but they are not persuasive with respect to all of the rejections. The argument regarding Homes et al. is not persuasive because homes et al. does disclose an abrasive coating that is free of abrasives consisting essentially of a binder (108) adhered to the backing, precisely-shaped structured surface (106) and DLC adhered to at least a portion of the structured surface and the binder, the fact that backing (104) comprises grits does not exclude Homes et al. from anticipating the Applicants' claimed invention in view of "consisting essentially of" and in light of Applicants' original claims, e.g., claims 1 and 19 per specification as originally filed.

In response to the Applicants' arguments with regards to Stubbs et al. in view of Martin et al. the argument regarding the motive is moot, however, in response to the arguments filed on April 08, 2003, it is noted that the Examiner is not picking form among the many disclosed embodiments as cited by Stubbs et al., as argued by the Applicant, rather that all embodiments may be modified in view of Martin et al. by one of ordinary skill in the art (to provide wear protective layer) and the fact that some of these embodiments as modified, e.g., the abrasive coating not including abrasives particles meet the claims limitations and not all, is not persuasive to withdraw the rejection. In response to applicant's argument that references cited

are not combined to eliminate contamination of the workpiece as taught by the Applicant, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

With regards to the statements made on page 7, lines 5 and 6, regarding Martin et al., i.e., "...does not teach or suggest that the entire abrasive article is free of abrasive particles, ...". It is noted that Applicant is not claiming an abrasive article, which is entirely free of abrasives, claims only recite for the coating to be free of abrasives. Therefore, Martin et al. as described above, modified by Stoetzel for polishing soft workpiece meets all the claims limitations.

Applicant is arguing against the references individually, it is noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the advantage of the claimed abrasive articles and methods is not directed to abrasive cutting performance, rather not to contaminate the work, it is noted again that the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Stoetzel et al. discloses structured abrasive composites free of abrasives for some applications depending on the workpiece parameters, the fact that the reasons for not using abrasive grains, is not the same as the Applicant's, i.e., to prevent contamination of the work, which would flow naturally for that specific application, is irrelevant.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or

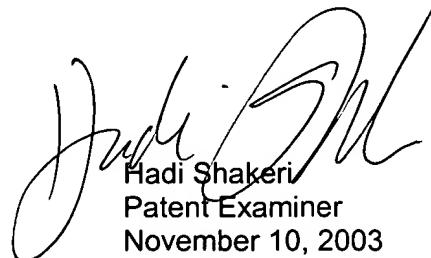
modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Martin et al. teaches the advantages of DLC coating in improving the cutting performance, , col. 3 lines 60-66. Stoetzel teaches the use of abrasive free article for soft polishing for specific applications, which is also advantageous in cost reduction, i.e., by eliminating abrasive particles. It appears the argument is that for a combination of prior art to be proper, the motive or suggestion to modify has to be the same as disclosed by the Applicant, e.g., to reduce the contaminant, which is not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM. Official documents may be faxed to (703) 872-9302, after final to (703) 872-9303.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.



Hadi Shakeri  
Patent Examiner  
November 10, 2003